

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference ep043848		FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/003848	International filing date (day/month/year) 13.04.2004	Priority date (day/month/year) 15.04.2003	
International Patent Classification (IPC) or national classification and IPC			
Applicant BASF AKTIENGESELLSCHAFT			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

- a. ☒ (sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:
- ☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
- ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
- b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))

_____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**CORRECTED
VERSION**

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/003848

Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 2-10 as originally filed/furnished
- pages* 1, 1a received by this Authority on 16.03.2005 with letter of 15.03.2005
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-8 received by this Authority on 27.11.2004 with letter of 26.11.2004
- nos.* _____ received by this Authority on _____
- ☐ the drawings:
- sheets _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☒ the claims, nos. 9, 10
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/003848

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1 - 8	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 8	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 8	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

See supplemental box.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box IBasis of the report1. Amendments (PCT Rule 70.2(a))

The amendments made by the applicant to the description (amendment of the description and acknowledgement of document D3) and to claim 1 (specification of the methyl ketone) do not go beyond the disclosure in the international application as filed.

Box VReasoned statement under PCT Rule 70 with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

2. The following document is referred to:

D3: DE 38 34 734 A (BASF AG), 19 April 1990
(1990-04-19)

3. Novelty

The amended claims 1 to 8 are novel (PCT Article 33(2)) over the closest prior art, which is document D3. D3 describes a process for reducing the quantity of residual monomers in aqueous polymer dispersions by post-treatment with initiator systems that contain iron salts, vanadium salts and also a redox system

Supplemental Box

consisting of an oxidising agent and a reducing agent (see D3, page 2, line 60 to page 3, line 10). However, acetone and salts of peroxysulphuric acid are mentioned only in a list of optional oxidising and reducing agents that can be used in addition to the aforementioned oxidising and reducing agents, and thus do not necessarily have to be present. Hence there are a number of choices that need to be made in order to achieve novelty: (1) Addition of another oxidising agent. (2) Choice of inorganic persulphate salts as the additional oxidising agent, from a list of three possible additional oxidising agents. (3) Addition of another reducing agent. (4) Choice of acetone as the additional reducing agent, from an extensive list of additional reducing agents. (See D3, page 3, lines 14 to 22). Document D3 is therefore not prejudicial to the novelty of claims 1 to 8.

4. Inventive step

The closest prior art is D3. The problem to be solved is that of providing an effective low-cost post-treatment process for reducing the residual monomer content in aqueous polymer mixtures. The applicant solves this problem using an initiator system that contains persulphate, methyl ketone and (optionally) metal ions (which can occur in a number of valency states).

A solution of this kind is not found in D3, either in isolation or in combination with either or both of documents D1 and D2.

Supplemental Box

The teaching of D3 leads in another direction. On the basis of D3, and in view of the problem as stated (cost factor), the solution would be to avoid using an additional redox system. Thus D3 does not suggest the possibility of using methyl ketones and salts of peroxysulphuric acid.

The subject matter of claims 1 to 8 therefore involves an inventive step.

5. Industrial applicability

The invention is industrially applicable (PCT Article 33(4)) in the field of post-treatments for polymers.

6. The application meets the requirements of PCT Article 33(1) with regard to novelty, inventive step and industrial applicability.